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ABSTRACT

Since its beginning in 1965, the Job Corps has enrolled more than a million impoverished and undereducated 16- to 21-year-olds in an intensive program of re-education and job skills training. The Job Corps' basic education program uses the systems approach to instruction in reading, mathematics, and high school equivalency subjects; and incorporates a number of teaching methodologies, of which the most prominent is programed instruction. The advantages of the systems approach in providing individualized diagnosis of skills and instruction, promoting early success, and adapting to the input of new students at any time have made it the most distinctive and unchanging feature of Job Corps basic education. Vocational education, teaching the skills of 165 occupations, also uses the systems approach, although it is modified because of the variety of content that must be taught. The basic education program teaches reading on three levels: grades 0 to 3.4, 3.5 to 7.4, and advanced; and mathematics on various levels following a skills hierarchy from whole numbers through fractions, to consumer mathematics. All students are prescreened for skill levels and proceed at their own pace, using the Sullivan Associates "Programmed Reading" series, selections from anthologies and story-cards, and the Sullivan "Programmed Math for Adults" along with work books and specially prepared Job Corps material. High school equivalency courses (GED) are also taught through programed methods with students moving through the 24 units at their own pace. Evaluation of students in Job Crops educational programs has shown a high rate of success; these methods may be of interest to Comprehensive Employment and Training Act (CETA) Prime Sponsors. (KC)

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THE JOB CORPS: BACK TO BASICS
A PROVEN PROGRAM FOR ACADEMIC ASSESSMENT

JULY 1980

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

With the new thrust of the Consolidated Youth Employment Program (CYEP) demonstration moving Prime Sponsors towards a much needed prescriptive/diagnostic approach to academic benchmarking, the availability of an improved and effective remedial Reading, Math and GED program may prove to be a boon to CYEP planners. This paper describes in some detail the programs and presents data on its success with the CYEP population in the Job Corps.

Job Corps is designed to provide intensive programs of education, vocational training, work experience, counseling and other activities, in either a residential or non-residential setting. The program's purpose is to assist disadvantaged young men and women to become more responsible, employable and productive citizens. The youths enrolled are volunteers, between the ages of 16-21 years, are out of school and out of work, and require additional education, training, or intensive counseling in order to secure and hold meaningful employment, participate successfully in regular schoolwork, qualify for other training programs, or satisfy Armed Forces requirements.

It is estimated that during Fiscal Year 1980 there will have been 105,000 young men and women in more than 100 Job Corps Centers located in 45 states and the Commonwealth of Puerto Rico. Job Corps was funded for FY'80 at $416 million.

Most Job Corps enrollees are referred from the Employment Service. To date there has been little coordination between CETA Prime Sponsors and the Job Corps, although the feasibility of closer cooperation in recruitment, screening and placement is being considered.

Regardless of the degree of coordination established between CETA and Job Corps, the program has developed a training and education curriculum over the past decade which the CETA sponsor should pay close attention to, either as a model for the sponsor's education components or as a point of referral for young people in need of such training.

The Job Corps curriculum is described in the following article by Robert J. Emmitt, Senior Education Specialist, Job Corps, ETA, U.S. Department of Labor. The article originally appeared in County Manpower Report, October, 1975. It has been updated to reflect new improvements and data by Barry J. Argento, TEAM ASSOCIATES, INC.

INTRODUCTION

During the 15 years since its inception in 1965, Job Corps has enrolled more than a million impoverished and undereducated young men and women in an intensive program of re-education and job skills training. The original direction, set by Congress, was to increase the employability, enhance the life chances, and improve the vocational skills of 16 to 21-year-olds. The education and vocational training program which evolved from this direction and from the special circumstances of the Job Corps setting may be of interest to Prime Sponsors of CETA training programs. The challenge and client characteristics that have shaped the focus and content of the Job Corps education systems are common to a number of manpower programs.

The Job Corps basic education program is the result of an originally bold conception and years of tinkering. It uses the systems approach to instruction and incorporates a number of teaching methodologies, of which the most prominent is programmed instruction. The advantages of the systems approach in providing individualized diagnosis of skills and instruction, promoting early success, and adapting to the input of new students at any time have made it the most distinctive and unchanging feature of Job Corps basic education. The more varied objectives

of the vocational training program in preparing graduates for a hundred and sixty-five occupations have led to some modification of the principle, but vocational education also follows a systems approach as far as is practicable.

No one would argue that the Job Corps education and training systems offer a panacea for miseducation and neglect or that they are the only successful approach to basic and vocational skills training. Like other aspects of the program, they have at times been uncomfortably controversial. They do not meet all the needs of the client populations. Yet they can provide a core around which other training can be structured, and have often been so used in public schools, the armed services, and other government programs.

If only by virtue of longevity, the Job Corps basic education program remains the most viable, influential, and widely imitated of manpower employability training programs. It is also probably the most economical and most easily established. These facts alone should make it of interest to CETA program managers.

THE JOB CORPSMEMBER - TYPICAL AND ATYPICAL

Although the Job Corps population has characteristics that distinguish it from other CETA client populations - age, work experience, home and family background - many of the characteristics it shares with other CETA groups are precisely those which determine the effectiveness of its education programs. What most sharply distinguishes Job Corps enrollees is the need for a comprehensive residential setting to enable them to concentrate on the resolution of their education and training needs. The Job Corps population is defined by Title IV of CETA as young men and women who are out of school and out of work, who need additional education, training, and work experience combined with personal and vocational counseling to secure and hold meaningful jobs, participate successfully in schoolwork, or qualify for other civilian or military training programs.

During the current fiscal year, approximately 70 percent of the 70,000 new enrollees were male and averaged 17.9 years of age. Approximately seventy-five percent were members of minority groups and nearly ninety percent came from families below the poverty level.

The average Job Corpsmember has completed 9.7 years of school, reads at a 4.2 grade level and has 3rd grade skills. The Job Corps entrant has typically advanced a half-year in reading and mathematics skills for each year of schooling, a rate which research indicates is not atypical for disadvantaged populations in manpower programs generally. Where the Job Corps population does differ educationally and socially from that in other CETA programs, it is a matter of degree rather than kind - they have the same disadvantages, only more so.

A 1967 comparative study of public and private school vocational training programs and of the Manpower Development and Training Act and Neighborhood Youth Corps populations showed that Job Corps trainees had slightly worse educational preparation, lower reading and math skills, and that a higher proportion came from families on welfare. They also had the least work experience of all groups surveyed. Later studies of Neighborhood Youth Corps programs which used the Job Corps basic education program suggest that the basic education techniques can be at least equally effective with clients who are somewhat less seriously handicapped by their skills deficiencies than the Job Corps population.

Approximately a fifth of Job Corps entrants read and compute below the third grade level; many cannot even recognize the letters of the alphabet. But another handicap of Job Corps entrants is often overlooked because it is difficult or impossible to measure statistically. Rejected in the two socially recognized arenas of achievement, school and work, the typical corpsmember is convinced that he or she cannot learn. Ten years of failure, even when disguised by social promotion, have taught at least one lesson very effectively: those who cannot learn by the conventional group methods or at the prevailing rates are doomed to repeat the experience of failure in society at large as well as in the schoolroom. While he or she may momentarily hope that a new method will work, the new corpsmember is extraordinarily sensitive to the slightest sign of failure, and, in the absence of clearly demonstrated progress, will assume defeat. Without clear and immediate proof of personal success, enrollees simply drop out of the program.

These characteristics, including the inclination of Job Corpsmembers to "vote with their feet" by dropping out of demanding, and therefore threatening, public institutions, set the direction for the Job Corps program which evolved in 1965. The implied requirements in large measure established the operational philosophy of education behind the Job Corps program, which was from the beginning a combination of the most suitable materials in the educational field with new materials specially developed for Job Corps. It is the Job Corps tests, progress records, and teachers' manuals that organize what would otherwise be an assortment of commercial and non-commercial materials into sequential learning systems with specified objectives. It was determined at the outset that the programs should, as far as possible:

- Reinforce success. Overconditioned to defeat in the classroom, corpsmembers need immediate proof of success to capture attention and allay fears.

- Adapt to random entry. Because corpsmembers enter the program at any time of year, the educational system must constantly absorb changing enrollments and integrate new students into a learning sequence.
- Provide for individual differences. Like the one room schoolhouse, the Job Corps classroom has to accommodate many levels and rates of achievement in a basic skill.
- Be innately rewarding. Learning activities should be intrinsically meaningful and rewarding. They should involve students in charting their own progress in competition with themselves rather than with others.
- Be relevant to life goals. Programs should be structured so as to clearly relate to goals that make sense to the learner in terms of jobs or eligibility for further training.

Relevancy has been the most difficult goal to attain. Ideally, education and vocational training would be welded into a single alloy in which the elements would strengthen and reinforce each other. It has not yet been possible to put together, for example, a beginning reading skills kit made up entirely of shop terms and tool names. The common language and computational skills needed by both workingmen and professionals when they read an income tax form or get change for groceries cannot be taught in the specialized vocabulary of one trade or twelve dozen. But the Job Corps Division of Technical Assistance continues to seek and develop materials to narrow the gap.

THE PROGRAM: BASIC EDUCATION

The basic education programs built to meet these specifications in reading, mathematics and high school equivalency preparation have certain features in common: they are diagnostic, individualized, and predominately self-instructional. To realize the objectives of immediate success, self-competition and intrinsic reward, proper initial placement is essential. The learner can interact successfully with the material only if the proper match is established at the outset. The diagnostic tests are a device for matching student skills with

units of instruction. After each unit, the corpsmember takes a progress check to demonstrate mastery of the material. A successful level of completion leads to the next unit. If the results show a need for more work on the first unit, alternative remedial or tutorial work which covers the same material in a different way is assigned.

Though there is provision for one-to-one tutorial work throughout the program, especially in the initial stages of beginning reading, the dominant mode of instruction is programmed learning. The teacher serves as a counselor, guide, and resource person to help students move through the program at their own speed rather than as a lecturer who makes textbook assignments and paraphrases their content in class. This system lends itself to the efficient use of peer/student aides who relieve the teacher of paper tasks and non teaching functions.

The basic education program has three main components and a number of subsidiary courses. The major courses are in reading, mathematics and high school equivalency preparation. (GED)

READING

The Job Corps Reading Program is comprised of beginning reading, covering literacy skills from 0 to the equivalent of school grade 3.4; graded reading, covering skills equivalent to school grades 3.5 to 7.4; and advanced reading, covering skills equivalent to school grades 7.5 and above. Beginning and graded reading are organized as separate classes, while advanced reading is usually conducted as a supplement to the high school equivalency program. Each of these program segments contains multiple graduated skill levels, which place the students in steps of approximately a half-grade level each.

Incoming students are placed roughly at the appropriate level by means of a thirteen minute placement test specially developed for Job Corps, the Reading Job Corps Screening Test #1. Initial fine placement and subsequent advancement from one level to another are accomplished through one-to-one teacher interviewing and testing which place the student at his or her most effective performance level. Students who are placed in the beginning reading section of the program work in the Sullivan Associates Programmed Reading series, books 1-14. Despite disadvantages of

juvenile illustration and format, this is the only series Job Corps has been able to identify during 15 years of use and field trial that provide the critical rewards of immediately reinforced success and inherent meaning. Students move rapidly and systemically from a few sound-symbol pairs, to words, to simple sentences. Experience shows that the psychological impact of finding that this is the first book they can actually read for themselves soon outweighs misgivings about the illustrations.

Within the eight half-grade levels of the intermediate graded reading section, there are over 2500 selections for students to choose from. Selections range from high-interest story-cards to short stories from anthologies. Students are free to choose from among 15 to 225 selections at each level by means of a master index organized by level and interest areas such as science fiction, adventure, mystery, sports, hobbies, and jobs.

The advanced program serves the needs of students who have worked their way up through graded reading or whose initial placement scores were in the junior high school range. A system of progress and promotion recording like that in graded reading is used as a means for both students and teachers to monitor learning. Because of the compa-

rable reading levels represented, the advanced reading section is most often used to supplement the advanced general education program.

The initial cost of reading materials to equip a classroom to serve 75 students a day, is approximately $1500.

MATHEMATICS

The Job Corps Mathematics Program follows a skills hierarchy from whole number operations through fractions, measurements, decimals and percentages to personal and consumer math. Like the reading program, diagnostic placement tests and unit tests permit individual placement, determine the instructional prescription, and assist progress monitoring.

A twenty-five minute initial placement test, Mathematics Job Corps Screening Test #1, measures general competency in the skills covered by the program. For those who score poorly, a fine placement test is administered to pinpoint skills deficiencies in whole number operations. Following initial placement in one of the major skills areas, such as decimals, a more detailed diagnostic test is administered to determine a learning prescription.

The major instructional materials in mathematics are the Sullivan Programmed Math for Adults, books 1-5, 7 and 8. These are accompanied by a workbook and word problem book at each level and by specially developed Job Corps supplements to strengthen coverage of problem areas identified during field trial. Materials also include a measurement laboratory which teaches vocationally related measurement skills and a series of speed checks: 100-item pop quizzes used to reinforce skills in addition, subtraction, multiplication, and division.

Materials are integrated by means of checklists and unit and section tests into a learning system with multiple small steps and specified advancement procedures. Also included are remedial strategies and references which teachers use to assist students who fail at any given point in the program. The goal is a sixth-grade math competency; experimental results indicate the program effectively enables students to reach this level. More advanced books on algebra, geometry, and trigonometry are frequently used to augment the series and to assist the transition to the GED preparatory program. The cost of materials for a classroom that will serve up to 75 students per day is approximately $1400. All materials are consumable and must be replaced annually.

ADVANCED GENERAL EDUCATION (GED)

The Advanced General Education Program was developed by Job Corps specifically to prepare students who have at least sixth grade reading and math skills for the American Council on Education's high school equivalency tests of general educational development, familiarity known as the GED. In some cases, local school systems have agreed to give high school credit for completion of the program. The program consists of individual lesson booklets organized into 24 units that cover core concepts in the high school curriculum: English usage, English literature, social studies, science, and mathematics.

Like the other Job Corps learning systems, the GED program begins each unit with a screening test which indicates whether the student already has mastery of the lessons in that unit. If so, the student is permitted to skip to the next unit and screening test. If not, the student takes the programmed lessons and lesson mastery tests in that unit and then passes on to the next unit or is given teacher-selected remedial material and instruction. Following the last lesson in the unit, the student takes a unit mastery test that simulates part of the GED exam.

In order to help students master the test format, to vary the diet of instruction, and to fill gaps in the program, supplementary materials are used. Other recommended supplementary materials are films, charts, and manipulatives. One set of the Advanced General Education Program can serve approximately five students at a time in classes of 25 or 30, or more. The materials can be used non-consumably, but they usually require at least partial replacement annually. As a result of using this program, 7600, or nearly ten percent of the Job Corps population, met the American Council's minimum standard for high school equivalency certification last year. The material is also used widely in public adult education, federal employee development, and military training programs. A complete set of the Job Corps GED material is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for $40.00. The stock number is 029-000-00340-8.

Other Job Corps basic education courses include instruction in job seeking and holding skills (world of work), driver education and health education.

RESULTS

During the past two years the Office of Youth Programs has been conducting an extensive research program designed to upgrade and measure the effectiveness of the programs described above.

This study, called the Educational Improvement Effort (EIE), is part of the Youth Knowledge Development Plans. Over 5000 16 to 21 year old youths have been tested and randomly placed in control and experimental groups in twelve Job Corps across the nation.

The parameters of the EIE are carefully delineated within the text of the 1979 Knowledge Development Plan (p. 40). They are:

- The reading program in the Job Corps will be revamped based upon assessments of available educational materials and approaches.
- The characteristics of the educational program including teacher training, student/pupil ratios, materials developed at different centers, pay levels, gain rates, and enrollee perceptions will be determined in a comprehensive survey of education in Job Corps.

- A study of computer-assisted learning and other promising education approaches will select models for testing within Job Corps.
- Alternative educational enrichment approaches including those emphasizing (1) new materials, (2) computer assisted education, (3) teacher motivation and training, and (4) pupil motivation, will be implemented in alternative centers under a carefully designed experimental program to determine which is most cost-effective in improving Job Corps learning rates.
- A data system and network would be established to provide for continuing additions to and adaptations of the various models and to assure their evaluation in a consistent fashion.

Preliminary gains data indicates that students in both experimental and regular Job Corps reading programs control groups achieve significant gains as measured by the Pre/Post Stanford Achievement Test (SAT). The pretests were administered upon entrance into the models and a posttest was given after approximately 90 hours of treatment (4.5 calendar months). $\bar{X}$ gain varied from center to center but the minimum gain reported for the 4.5 month periods was 1.3 school years while the maximum was 1.7 years - approximately three to four times the expected gain.

Similarly, passing percentages on the state GED exams are very high for the test sample in cohort one of EIE. Sixty-two of sixty-five individuals passed the state exams on the first try after using the Job Corps GED program or the modified version.

Obviously, results may differ under various program environments and intensities, but these results have been consistent over many years in the Job Corps.

AUTOMATED ACADEMIC ASSESSMENT

The paper and pencil programs detailed above have been computerized, improved, and are being tested at several Job Corps locations as part of the EIE. In addition, five CYEP sites are now included in the computerization demonstration. This enhancement will also install individual caseload management intake assessment, and a meaningful management information system within the CYEP sites. Systems are designed to be operated by computer-naive field personnel. All software will be public domain. Technical assistance will be available through the Office of Youth Programs.

VOCATIONAL TRAINING:

A COMPETENCY-BASED SYSTEM

The other major component of the Job Corps education and training program is occupational training. Because of the 165 occupations taught throughout Job Corps, it has been necessary to develop a somewhat different application of the systems approach. The Job Corps Occupational Training Handbook, now under revision, provides a guide for vocational instructors to use in developing a competency-based vocational curriculum for any of the 165 occupations. It provides step-by-step instructions for establishing competency levels, developing skills objectives, and specifying training activities and tasks. The training activities and tasks identified will be correlated with performance, knowledge, and behavioral objectives and levels specified in the previously developed Training Achievement Records (TAR's) for each occupation. The handbook will enable the instructor to specify an individualized sequence of learning tasks to enable each trainee to reach the required level of proficiency.

The curriculum in vocational training is compatible with the systems approach to the degree that it includes the three essential elements: diagnosis, learning prescription, and evaluation for mastery. It differs from basic education primarily in dealing with levels of task performance rather than a paper product, but in many respects the objectives are more nearly similar than different. Both reading and understanding a book and dismantling a carburetor involve the performance of an activity of specific difficulty within given tolerances of time and technique.

The TAR's and the handbook based on them are the result of information derived from the Dictionary of Occupational Titles and Occupational Outlook Handbook, The Bureau of Apprenticeship and Training, and other Department of Labor training standards. The TAR's were approved by business and industry and revised accordingly before the first printing in 1972 and have been periodically updated since.

The job specifications in the TAR's and handbook are adaptable to either classroom, or on-site instruction, or to work experience settings. Although they were developed to meet Job Corps requirements, they can, like the basic education programs, be adapted to CETA training requirements.

Those who would like further information about the make-up of the programs described in this article or about the research and results of using the Job Corps curricula in basic education and vocational training can write the Division of Technical Assistance, Job Corps, Room 6114, 601 D Street, N.W., Washington, D.C. 20213, or TEAM Associates, Inc., Suite 510, 1625 Eye Street, N.W., Washington, D.C. 20006. Those who wish to see the Job Corps curriculum in action may be able to arrange a visit to a nearby center through the Job Corps Office in each region or through any participating CYEP Prime Sponsor.